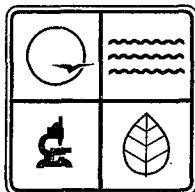


STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES
MISSOURI AIR CONSERVATION COMMISSION



PERMIT BOOK

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: **042006-013** Project Number: **2006-01-019**

Owner: **Waste Corporation of Missouri, Inc.**

Owner's Address: **2120 West Bennett Street, Springfield, MO 65807**

Installation Name: **Black Oak Recycling & Disposal Facility**

Installation Address: **5054 Highway HH, Hartville, MO 65667**

Location Information: **Wright County, S3, T29N, R14W**

Application for Authority to Construct was made for:

Construction of a vertical expansion at a landfill that will increase the landfill capacity by 3,670,000 cubic yards (2,806,080 cubic meters). The expansion is vertical only with no increase in permitted area of landfill that remains at approximately 82 acres. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

☐ Standard Conditions (on reverse) are applicable to this permit.

☒ Standard Conditions (on reverse) and Special Conditions (listed as attachments starting on page 2) are applicable to this permit.

APR 28 2006

EFFECTIVE DATE

DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional Office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed Special Conditions as provided in RSMo 643.075. If you choose to appeal, the Air Pollution Control Program must receive your written declaration within 30 days of receipt of this permit.

If you choose not to appeal, this certificate, the project review, your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant source(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Department of Natural Resources has established the Outreach and Assistance Center to help in completing future applications or fielding complaints about the permitting process. You are invited to contact them at 1-800-361-4827 or (573) 526-6627, or in writing addressed to Outreach and Assistance Center, P.O. Box 176, Jefferson City, MO 65102-0176.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention Construction Permit Unit.

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Permit No.	
Project No.	2006-01-019

SPECIAL CONDITIONS:

The permittee is authorized to construct and operate subject to the following special conditions:

The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."

Black Oak Recycling & Disposal Facility
Wright County, S3, T29N, R14W

1. **Emission Limitation - New Sources Performance Standards (NSPS)**
This installation shall comply with all applicable emission limits, monitoring, testing, reporting, and record keeping requirements of 40 CFR 60, Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills*.
2. **Emission Limitation - National Emission Standards for Hazardous Air Pollutants (NESHAP)**
This installation shall comply with all applicable emission limits, testing, monitoring, sampling, reporting, and record keeping requirements of 40 CFR Part 63, Subpart AAAA, *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*.
3. **Haul Road Watering – 50% efficiency**
Black Oak Recycling & Disposal Facility shall water the haul roads (EP-05) whenever conditions exist which would cause visible fugitive emissions to enter the ambient air beyond the property boundary.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (6) REVIEW

Project Number: 2006-01-019
Installation ID Number: 229-0022
Permit Number:

Black Oak Recycling & Disposal Facility
5054 Highway HH
Hartville, MO 65667

Complete: January 10, 2006
Reviewed: February 22, 2006

Parent Company:
Waste Corporation of Missouri, Inc.
2120 West Bennett Street
Springfield, MO 65807

Wright County, S3, T29N, R14W

REVIEW SUMMARY

- Black Oak Recycling & Disposal Facility has applied for authority to construct a vertical expansion that will increase the capacity by 3,670,000 cubic yards (2,806,080 cubic meters).
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed landfill. Potential non-methane organic compounds (NMOC) emissions are above de minimis levels.
- New Source Performance Standards (NSPS) Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills* applies to the landfill.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, AAAA, *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills* applies to the landfill.
- The existing landfill has a gas collection system and flares to control landfill gas.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NMOC are above de minimis levels.
- This installation is located in Wright County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].

- Ambient air quality modeling was not performed for this review. No model is currently available which can accurately predict ambient ozone concentrations caused by this installation's VOC emissions.
- Emissions testing is required in accordance with NSPS, Subpart WWW.
- A revision to Part 70 Operating Permit application is required for this installation within 1 year of the vertical expansion.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Black Oak Recycling & Disposal Facility is a Municipal Solid Waste landfill that opened in 1995. Waste Corporation of Missouri, Inc. operates Black Oak Recycling & Disposal Facility, a municipal solid waste (MSW) landfill facility consisting of a combined 9.16 million cubic meter (m^3) capacity located near Hartville, MO. The Hartville landfill (0.3 million m^3) opened in 1988 and closed in 1996. The Black Oak Expansion (8.86 million m^3) opened in 1995. The original landfill has a capacity of 0.3 million cubic meters with three (3) phases, which were closed September 1996. There are there (3) passive odor control candlestick flares with solar igniters on Phase I and two (2) flares each on Phase II and Phase III. A 6.0 million cubic meter lateral expansion with ten (10) phases, opened in July 1995. Tier 2 testing has been done on both the closed and Black Oak expansion sections. The 1998 site specific non-methane organic compounds (NMOC) emissions were less than 50Mg/yr.

The closed landfill section (Hartville) has three passive odor control candlestick flares with solar igniters on Phase I and two each on Phase II and Phase III. The active landfill section (Black Oak) has five passive odor control flares. Tier II testing has been performed on both the closed and expansion sections. The 2002 site-specific non-methane organic compounds (NMOC) emissions were less than 50 Mg per year.

The typical operation of the landfill is to place MSW hauled usually by truck in a quarter-acre active area and compact it with heavy equipment to reduce the volume of the waste. The compacted waste is then covered on a routine basis with soil obtained from onsite. Decomposing waste encapsulated within the landfill produces landfill gas that is primarily composed of methane, carbon dioxide, and other NMOCs. Landfill gas also contains small amounts of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs). Particulate matter (PM) emissions also occur while the landfill is in operation due to vehicular travel on paved and unpaved roads on installation property, as wells as from wind erosion on storage piles and earth-moving activities onsite.

At maximum design capacity, Black Oak Recycling & Disposal Facility will be a major source of municipal solid waste landfill emissions (measured as NMOCs) and HAPs and is subject to 40 CFR 60 Subpart WWW – Standards of Performance for Municipal Soils Waste Landfills and 40 CFR 63 Subpart AAAA- National Emission Standards for

Hazardous Air Pollutants: Municipal Solid Waste Landfills. MACT Applicability of 40 CFR 63 Subpart AAAA, *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills* could become applicable. This provision states that all municipal solid waste landfills are subject to Subpart AAAA if the landfill has a design capacity equal to or greater than 2.5 million Mg or 2.5 million m³ and has estimated uncontrolled emissions equal to or greater than 50 Mg per year NMOC. Upon exceedance of the 50 Mg NMOC per year threshold, the installation must meet the requirements in this provision by the date the landfill is required to install a collection and control system by 40 CFR 60.752(b)(2) of Subpart WWW. The exceedance is expected to occur in 2006 and the MACT will be applicable.

The following permits have been issued to Black Oak Recycling & Disposal Facility from the Air Pollution Control Program.

Table 1: Permits Issued to Black Oak Recycling & Disposal Facility 229-0022.

Permit Number	Description
OP1999-099	Operating Permit Sanitary Landfill
Project # 1998-02-0224	Portable crushing plant Temp Permit Section 3
OP1999-099A	New Responsible Official 9/24/1999
OP	New Responsible Official 4/11/2002

The Air Pollution Control Program issued a temporary installation permit under Section 3 to Freesen Inc. to operate a rock crushing operation on the site. A Part 70 Operating Permit (Permit Number OP1999-099) was issued for the installation in July 21, 1999. In addition, a Part 70 Operating Permit Renewal application was received April 02, 2004.

PROJECT DESCRIPTION

Black Oak Recycling & Disposal Facility has applied for authority to construct a vertical expansion that will increase the capacity by 2,806,080 cubic meters or 3,670,000 cubic yards. This new area will increase the overall capacity from 7.7 to 11.3 million cubic yards. In the permit application, the installation indicated the annual waste acceptance rate would be approximately 218,121 Mg/yr (240,437.2 short tons) of MSW per year. At this predicted waste acceptance rate, the landfill has been estimated to be able to receive MSW for approximately the next 16 years (2022). The active landfill section (Black Oak) has five passive odor control flares. The vertical expansion over the existing site has flares and two of the flares will protrude through the vertical expansion. The emission from these flares are not considered in this evaluation as the existing gas collection system is not part of the vertical expansion. The haul roads will not change with this vertical expansion and the haul roads are not counted with this vertical expansion. Potential PM₁₀ emissions from drop operations was calculated to be less than 0.02 tons /year. Also, Potential PM₁₀ emissions from operating a bulldozer to cover the landfill were estimated at 2.73 tons per year.

The air emissions from a landfill will change over time, this review evaluated the installation at a time period when the maximum air pollutant emissions were expected to occur. This landfill is subject to the requirements of NSPS Subpart WWW, *Standards of Performance for Municipal Solid Waste Landfills*. Therefore, when the annual non methane organic compounds (NMOC) emissions from the landfill exceed 50 MG per

year, the installation would be required to either install a gas collection and control system or conduct testing to determine the amounts of emissions occurring from the specific landfill. This is expected to occur in the year 2006.

EMISSIONS/CONTROLS EVALUATION

Only the landfill emissions from the vertical expansion were estimated using the Environmental Protection Agency's (EPA) Landfill Air Emissions Estimation Model (LANDGEM). The average annual amount of waste accepted by the landfill was entered into the model. The capacity of the vertical expansion (2,497,026 Mg) was determined by multiplying the capacity of the vertical expansion 3,670,000 cubic yards by a density of 0.75 tons /yd³ and conversion from tons to Megagrams. An average waste acceptance rate was used of 218,121 Mg/year. The values used in the model for the methane generation potential (L_0) and methane generation rate constant (k) were the AP-42 recommended values of 100.0 cubic meters per Mg and 0.04 per year, respectively. The AP-42 recommended values were used instead of the those presented in the NSPS Subpart WWW since the purposes of these calculations are to estimate the most realistic potential emissions of the landfill and are not for showing compliance with the NSPS. The value for the NMOC concentration used in the model was 595 parts per million by volume, AP42 suggested value. Based upon the above parameters, it was determined that the peak methane emissions would be approximately 8,001,000 million cubic meters per year. HAPs, VOCs and NMOCs quantities were determined from the MDNR spread sheet. The quantities calculated are based on the peak methane emissions.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). Existing potential emissions of PM₁₀, VOC, CO, HAPs and NMOC from Black Oak Recycling & Disposal Facility are calculated to be below major levels. Existing actual emissions were taken from the applicant's 2004 Emissions Inventory Questionnaire (EIQ) submittal. The following table provides an emissions summary for this project.

Table 2: Emissions Summary (tons per year).

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2004 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	N/D	32.7	2.75	N/A
SO _x	40.0	N/D	0.46	N/D	N/A
NO _x	40.0	N/D	1.3	N/D	N/A
VOC	40.0	N/D	11.52	20.12	N/A
CO	100.0	N/D	27.1	6.23	N/A
HAPs	10.0/25.0	N/D	1.46	16.54	N/A
NMOC	50.0	N/D	N/D	70.49	N/A

N/A = Not Applicable; N/D = Not Determined

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of NMOC are above de minimis levels.

APPLICABLE REQUIREMENTS

Black Oak Recycling & Disposal Facility shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

- *New Source Performance Regulations*, 10 CSR 10-6.070 – *New Source Performance Standards (NSPS) for Municipal Solid Waste Landfills*, 40 CFR Part 60, Subpart WWW
- *Maximum Achievable Control Technology (MACT) Regulations*, 10 CSR 10-6.075, *National Emission Standards for Hazardous Air Pollutants: Municipal Solid Waste Landfills*, 40 CFR Part 63, Subpart AAAA

AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was not performed for this review. No model is currently available which can accurately predict ambient ozone concentrations caused by this installation's VOC emissions.

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Timothy Paul Hines
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated 01/05/06, received 01/10/2006, designating Waste Corporation of Missouri, Inc. as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southwest Regional Office Site Survey, dated 01/26/2006.